RESEARCH HIGHLIGHTS

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QUANTIFYING UNIVERSAL DESIGN: A PROGRAM FOR IMPLEMENTATION

Introduction

This study, completed under CMHC's External Research Program (ERP), examines Universal Design, which is defined as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." Universal Design is guided by seven principles:

1. Equitable use
2. Flexibility in use
3. Simple and intuitive
4. Perceptible information
5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use

The Center for Universal Design, www.design.ncsu.edu/cud, says:

"The intent of universal design is to simplify life for everyone by making products, communications and the built environment more usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities."

The purpose of the ERP study was to develop a method for collecting and organizing information to implement and promote Universal Design.

For the study, the researchers set up a National Team of people with a wide range of interests and academic disciplines from all parts of Canada. Members of the team shared an interest in Universal Design. The Team included advocates for people with disabilities, rehabilitation specialists, architects and interior designers, government health and social services representatives, urban planners and gerontologists.

The National Team discussed development of methods to collect and organize information to promote Universal Design.

For the study, "design" included a range of applications beyond the built environment, such as landscapes, programs and policies. The project initially centred on the need for dimensional information, not currently available, for implementing Universal Design. As that question was being addressed, the National Team raised another overriding issue—the team's sense that Universal Design would not become more common by providing dimensional information without a clear value base and appropriate models.

Methodology

The methodology included a thorough literature review, which was collected and summarized in a discussion paper. The discussion paper provided background information for the National Team.

The National Team's discussions brought together differing viewpoints and experiences about applying Universal Design, which resulted in recommendations for future activities.

Findings

While Universal Design is gaining acceptance, it remains a term defined through concepts. One of the strengths of Universal Design is its basis in accommodating a population with a range of functions or capabilities.

Traditionally, designers have designed for "averages" or specific or unspecified population groups. As a result, dimensional requirements have been collected and presented to support that "average" or a specific target group. The literature review highlighted the fact that some important basic dimensional information is missing, such as:

- Off-the-shelf information lacks accurate (and in some cases, any) comprehensive and inclusive information on the range of human variables in the general population.
- Most guidelines are either based on dimensions from a barrier-free approach, which details a mythical person in a wheelchair, or dimensions that exclude any information on persons with disabilities.
- The people measured for the existing information represent a small and exclusive group.
- The tasks measured do not necessarily represent real life situations.

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- The dimensional requirements for some marginalized groups are separated from those for "normal" or "healthy" groups, making designing for the range of capabilities difficult or impossible.

Conclusions

This project realized the importance and usefulness of Universal Design in many different fields. Universal Design is a potentially powerful tool in the continuing drive for a more inclusive society.

The following are recommendations for the future:

1. Quantitative measurements

Existing databases need to be reviewed with strict criteria to ensure that people with disabilities and older adults are included and have appropriate static and dynamic measurements. This information needs to be collated so that information for people with disabilities and older adults is integrated with the rest of the population. There must be links between the quantitative data and the qualitative information of Universal Design.

2. Qualitative measurements

The concepts of Universal Design need to be defined and explained in usable and useful terms.

3. Models

An approach to positively promote and disseminate Universal Design needs to be developed through the use of models and best practices. This includes models that demonstrate universally designed policies, programs and services.

4. Leadership

A national organization responsible for promoting Universal Design through education, research and displays of best practices and policies should be established. The organization should provide links to organizations, consumers, research, programs, models, databases, researchers and designers.

5. Next steps

A national Consensus Conference should be convened to establish an Action Plan based on the above findings and the findings of the National Team. The Action Plan would confirm commitments to the enterprise and to implementing and developing models.

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